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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,137	08/17/2001	Gerard Chauvel	TI-31359	5164

23494 7590 07/13/2004

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EXAMINER

FLEMING, FRITZ M

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,137

Applicant(s)

CHAUVEL ET AL.

Examiner

Fritz M Fleming

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


FRITZ FLEMING
PRIMARY EXAMINER
GROUP 2100

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/22/2003, 08/17/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 1 should have "MP" in 12 changed to "MPU" to better reflect the written description. Figure 16 has duplicative "140", one of which should be "142". Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: page 11, line 24 makes erroneous mention of "Figure 41". The copending/related information on page 1 needs to be completed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “control word” in claims 1,15,25,26 is used by the claim to mean “a bit length”, while the accepted meaning is “the native unit of storage on a particular machine, the width of the main data bus.” The term is indefinite because the specification does not clearly redefine the term. The specification has not clearly defined the “word” as being correlated to a fixed bit width to comprise a word (i.e. 16,32,64 bit) related to a bus width, or if it is to be considered a varying bit length. If the “word” does not correspond to a bus width or a fixed bit width, then perhaps an alternative means of expression should be used (i.e. bit string, control bits or the like). In the interest of compact prosecution, a “control word” is loosely being construed to mean a collection of bits, as applied in the rejection below.

6. Additionally, there is no clear antecedent basis for the claim 14,15 “said enabling or disabling” in claims 11-13, as the “enabling” is used in claim 11, absent “disabling”.

Double Patenting

7. Claims 1-22 of this application conflict with claims 1-26 of Application No. 09/932354. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

In this instance, the instant claims use the terminology "enabled and disabled" and the co-pending claims use "configured", which are differences in semantics, and not substance, as a "configuration" is, in fact, a defining of the state of the circuit as to its enabling or disabling.

8. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

9. Claims 1-22 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-26 of copending Application No. 09/932354. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

As pointed out above, the difference between "configured" and "selectively enabled and disabled" is the same thing, noting the use of the permissive "may be selectively" in both sets of claims. Thus a "may be selectively configured" is in fact the same as a "may be selectively enabled and disabled", as a configuration defines if the circuit is in fact enabled or disabled. Hence the same invention is being claimed in co-pending applications.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2182

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouzu et al. (Gouzu) in view of Gasztonyi and Shaffer et al. (Shaffer) and Gupta et al. (Gupta).

Gouzu discloses the main and substantial features of the claimed subject matter. Of particular note is the following. The abstract sets forth a multitask processing system, hence the processing module (i.e. the device of Figure 1 or 4) is capable of multitasking multiple tasks. Page 1, lines 5-11 further teach use in portable telephones, thereby meeting claimed subject matter (i.e. claim 26) directed to an antenna, transmitter, receiver, as a portable telephone has such things as a matter of course. A portable telephone would not be a portable telephone without an antenna and transmitter/receiver circuitry. Gouzu goes on to identify in detail at pages 1-6 a selection of optimal clock frequency for power savings (i.e. claim 5), whereas pages 7-8 and Figures 4-6 set forth a task (i.e. "tasks 1-3") and the respectively used resources for each task, such as LCD, hard disk, printer, modem, CD-ROM. It is clear that each task has associated resources that "may be selectively configured"/"configured" in response to the "control signal" issued by the task request means 3 to the task managing means 6 of the task request, as it is responsive to the request to associate the needed resources with the appropriate task. Obviously, there is some sort of storage of the task identification numbers correlating the associated resources, which are to be configured and used with the respective task. For example, per Figures 4 and 5, the associated circuits of the LCD, hard disk, CD-ROM, printer, modem are in support of the processing module (i.e. the CPU) and are then

Art Unit: 2182

selectively configured to support the task via the task identification number and the use of the resource control means 204, with the use of the means 201 that decide a resource the task uses in accordance with the task processing contents. What is lacking is a specific mention of a "selective configuration" and a "memory" and a "control word", noting that the circuits are associated with particular tasks in accordance with the task number.

Gasztonyi, in the same field of power reduction, sets forth the selective configuration via an enabling and disabling via switches 54 of elements 22-32 (to include modem, disks, memories) in accordance with control under the power management system 46. The power management system 46 has a memory 48, which stores relations for each application (i.e. a task) between the usage of assets and the execution of the application program. Once some measure of asset utilization has been ascertained, the power consumption data for each application program may be stored in the computer system, for example, in look-up tables (plural tables, one for each application program) so that the table(s) may be accessed when an application program is run, with the ability to dynamically update the data (see columns 3 and 4). Location may be in a TSR or BIOS, wherein BIOS and/or TSR is an obvious expedient of a type of memory, such that the look-up table is stored in the memory (i.e. TSR or BIOS) when the application is being carried out by the CPU 34. Also per column 4, when DOS (shown in memory 42, along with BIOS, power management and application) accesses the table(s), the data therein is used to disconnect or reduce power to assets (i.e. configurable circuits) not used by that particular application. Hence, it is clearly taught to use a memory stored data table to selectively configure associated circuits via an enabling/disabling of power to the circuit, so that a power savings is achieved by only configuring the assets actually needed

Art Unit: 2182

by the application currently running. Note also the use of a plurality of CPUs and memories in Figure 2, with implementation of the above described functionality for turned off or reduced power to one or more of the CPUs, memory units, storage devices, and interface devices.

Shaffer, in the same field of power savings, shows the use of a memory 26 that houses the OS 32 and the App 30, along with the table 28, which stores the optimal CPU speed associated with each application program or task, along with other processing performance requirements and interrupts and addresses of the interrupt handlers (i.e. column 5, lines 5-47), such that the table 28 is a multi field configuration data representation. When the OS is loaded, the processing requirements are placed into the table 28 in memory 26 (column 6, lines 26-57), thereby clearly showing that the configuration data is in memory as the application/task is being run by the CPU 20.

Finally, Gupta shows a power control register field 108 in the power control register 106 for storing the values. Functional units are defined to include integer multiply, divide, add, subtract, load/store, I/O, multimedia unit, multiported cache memory unit, data bus, and the like (column 5, lines 39-57). Each power control register field is coupled to the corresponding functional unit via a bus, such that each register field 108 can be set by software and can be one or more bits in width depending on the resolution of the desired control (column 6, lines 1-13). As seen in Figures 3-11, functional units in support of the processing module (i.e. microprocessor 100 to include DSPs, co-processors, microprocessors, data-converters per column 5, lines 39-45) are selectively configured and enabled and disabled (i.e. Figure 6) by controlling power to the FU1-N. Thus a "control word" has been shown to be used to control the

Art Unit: 2182

configuration/enabling/disabling of the functional units in the form of a power control register 106 comprising the plurality of fields 108, thereby creating a "control word" whose width is the number of bits in 106, as the bits are coupled to a bus to control the FUs. Obviously, the use of "stored" in conjunction with the register 106 is indicative of a type of memory. Finally, use is suggested in the conventional computer system of Figure 1 (see column 12, lines 15-20), such that the software that writes to the power control register is stored in main memory 22 and thus to be used in conjunction with the system level approaches provided by the prior art to produce improved power management at the microprocessor and system levels.

Therefore, it would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify Gouzu et al. (Gouzu) in view of Gasztonyi and Shaffer et al. (Shaffer) and Gupta et al. (Gupta), for the express purpose of improved power management at the microprocessor and system levels.

- Claim 1,11: Gouzu teaches multitasking by the CPU with associated circuits in the form of the resources selectively configured per task; Gasztonyi and Shaffer and Gupta combine to teach the use of a control word in memory while the application/task is running, with an enabling/disabling at the switches of Gasztonyi and Gupta.
- Claim 2,12: Gupta teaches a plurality of fields 108 in 106.
- Claim 3,13: Gupta shows each FU (i.e. associated circuit) has its own field.
- Claim 4,14: Gouzu teaches resource control means 204, Gasztonyi shows switches 54, Shaffer shows a clock module, and Gupta shows circuitry in

Figs 3-11, wherein various levels of configuration is accomplished by the associated circuitry ranging from a power on/off enable/disable responsive to the data in the look up tables/registers.

- Claim 8,18: Gupta suggests cache control as one of the FUs in column 5, along with I/O.
- Claim 5,10,15,20: Gasztonyi teaches a plurality of CPUs and memories in Figure 2, such that power control at the microprocessor and system level may be selectively configured by Gupta's register.
- Claim 6,16: CPU in Gouzu.
- Claim 7,17: DSP in Gupta.
- Claim 9,19: co-processor in Gupta.
- Claim 21: In combination, Gasztonyi teaches a plurality of CPUs, Gouzu teaches multitasking in the CPU, such that, all references combined, teach multiple processor configuration via Gupta's register in Shaffer's memory.
- Claim 22: Gouzu teaches use in a portable telephone, as detailed above.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shimoda shows multiple modes 26-28. Williams et al. teach the use of a profile database. Rawson et al. teach a linked list in Figure 3. Kissell teaches power prediction. Barbee teaches ID in 404. Ogoro teaches DSP 4. Farkas et al. teach energy-based sampling at 200. Frantz et al. teach power profiling. Mittal et al. teach activity monitoring at 106 and mode control at 107. Gunther et al. teach the use of threshold values. Domen et al. teach memory power control. Morita teaches high speed


Art Unit: 2182

clocking at a sound request. Lin teaches latches 504+. Datar et al. teach the use of power code bits. Dhong et al. teach reduced cache memory power consumption. Bajorek et al. teach mode controller 24. The Chauvel et al. documents are published applications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz M Fleming whose telephone number is 703-308-1483. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-1483. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Fritz M Fleming
Primary Examiner
Art Unit 2182

fmf